

At the market at Yakutsk I have seen white clay pottery made with the potter's wheel. These wares were made by Russians. I could not learn, however, the origin of the white clay.

The Yakut of the northern districts of Yakut Province, Verkhoyansk and Kolymak, of the lower course of the Lena, and of the villages on the Olenek, Khatanga, and Anabara rivers, neither use pottery nor have any knowledge of its manufacture, but utilize iron and copper utensils. It is curious that they do not know that their southern relatives from whom they separated about two hundred fifty years ago still use and make pottery. This is surprising since there are passages in folk tales referring to clay pots.

The fate of Yakut pottery demonstrates the possible differences in the sequence of development of culture. Among civilized nations the ceramic art has been perfected simultaneously with the development in the production and manufacture of metals. With the Yakut, as with other Siberian tribes, the opposite occurred. For instance, the present Kamchadal and Koryak do not know that their forefathers made pottery, but archaeological excavations¹ by the author on Kamchatka Peninsula and within the territory of the Koryak brought to light ancient specimens of their pottery. Compared with the Koryak and Kamchadal, however, the Yakut are relatively much more advanced in culture having, in the past, been affiliated with other civilized Turkic nations of southwestern Asia.

METALS

At present the Yakut are acquainted with iron, copper, bronze, silver, gold, tin, and lead. All these metals, except tin and lead, still retain their old Turkic names: iron, *timir*; copper, *altan*, red copper, *jas altan*, yellow copper; brass, *uös altan* or *ürüñ altan*; bronze, *čyafñ* (after Sieroszewski); silver, *kömüs* or *ürüñ kömüs* (white *kömüs*); gold, *kysyl kömüs* (red silver); tin, *zolholyun*; lead, *sibinäs*, *zolholyun* is a Mongol word and *sibinas* a Russian word (*svintz*).

Iron. Iron (*timir*) is historically and economically the most important metal among the Yakut who were acquainted with the reduction of iron ores and iron manufacture before reaching their present abode. There are no data to prove that they worked iron before they learned the manufacture and use of copper, bronze, and other metals. In central Siberia, on the Yenisei and Angara rivers, ancient sites have been discovered on which remains of the late neolithic period were found

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¹Jochelson, Waldemar. Archaeological Investigations in Kamchatka (Carnegie Institution of Washington, No. 388, Washington 1925), 66-76.

174 mixed with Iron Age objects. One may therefore surmise that places
 • 325 abandoned in the neolithic period were later occupied by iron workers.
 172 In the Irkutsk District Professor Petri discovered a genuine iron (not
 mixed with other metals) age site in the valley of the Murina River, a
 tributary of the Kuda, which empties into the Angara River. Remains
 of earth huts similar to those of the present Yakut were found. The
 people were cattle breeders as was evidenced by the bones of oxen.
 Here were also found fragments of pottery, slag, furnaces, pipes, and a
 prehistoric mine shaft leading to layers of iron ore.

On one site was discovered part of a clay furnace about two feet
 high and one and a half feet in diameter, above which were alternating
 layers of iron ore and charcoal. The mixture was fired and air was blown
 in from below through pipes by means of bellows. During the smelting
 process charcoal and ore were added from above. The metal thus
 obtained was removed by destroying the furnace. Remains of such iron
 foundries have been discovered as far west as the Minussinak country,
 i.e., over the entire route alleged to have been traversed by the Yakut to
 reach the Lena Valley.

325 At present, iron mining is concentrated in different localities of Viliui
 326 and Yakutsk districts. Some *naslegs* of the Markhinsky and Verkhne-
 Viliuisk *uluses* in the Viliuit District are noted for their iron mining
 and smelting, as well as some *naslegs* of the East Kangalasky *ulus*, namely
 the clans living on the Small Batom and Tyukan rivers in Yakutsk
 District.

The present process of iron mining and smelting does not deviate
 from the prehistoric method described above. Iron is reduced to the
 metallic state, as described by Sieroszewski¹ and Maak² in jug-shaped
 furnaces 3 feet 8 inches high and 3 feet wide at their greatest width,
 which is usually about 14 inches from the base. The fire clay walls of
 the furnace are 1½ to 2 inches thick. The furnace is enclosed in a log
 framework filled in with clay to retain the heat and make it firm. In
 the lower part of the furnace is a damper for removing the pig iron.
 Before the operation the damper is closed and covered with a layer of
 clay. A fire is built and ore and charcoal placed in the furnace from
 above. The fire is kept burning by blowing on it with bellows and ore
 and charcoal are added fifteen to twenty times. After the pig iron is
 separated from slag and repeatedly heated and hammered, soft iron and
 occasionally steel is obtained. The Yakut prefer it to the imported

¹Sieroszewski, *ibid.*, 381.

²Maak, *ibid.*

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Jochelson, *The Yakut*.

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The Yakut prefer it¹ to the imported Russian iron and call it *sakha-timir* (Yakut iron) as opposed to *nucha timir* (Russian iron). The Yakut iron ore yields 10 per cent iron, the Yakut are unable to handle the process in order to obtain a desirable sort of iron or to make steel. The imported steel, however, is too expensive for the Yakut. It is very easy to distinguish between the flexible Yakut knives and the hard Russian iron ware.

The Yakut Blacksmith. The double bellows (*küört*) of the majority of East Siberian tribes is used by the Yakut blacksmiths. This type of bellows was found not only among the Turkic-Mongol tribes of central and western Asia, but also in Eastern Africa. The Yakut double bellows belongs to the type called *Schlauchblasebälge* (leather-bag-bellows) by German ethnologists. These leather-bag-bellows, in their turn, are known in two forms, one of which is represented by the Yakut double bellows which are distinguished by openings in the form of short slits in the tops of the leather bags. The tubes from the bags run to the furnace where they are united and have a single outlet. Pairs of small sticks are sewed along the edges of the slits. When these sticks are brought together with the hand the bag is hermetically sealed. The blacksmith's assistant, sitting on the floor between the leather bags, alternately raises and opens one of the bags with his fingers, simultaneously closing and lowering the other bag. In this way a continuous draft is maintained.¹ The Yakut blacksmith sits on a low seat at the furnace, his anvil (*kystyk*), tongs (*kytahas*), hammer (*ötuye*), and a file (*igi*), on the ground beside him. All these objects resemble the paraphernalia of the eighteenth century Mongolian smithy illustrated in Pallas' work.² The Yakut, like the Gypsy smith, has remained to a considerable degree an itinerant artisan. Usually he carries his tools and bellows to the place where the work is to be done. In Fig. 54 is illustrated a Yakut blacksmith who has established himself under the roof of a sledge shed belonging to a rich Yakut patron.

In many respects the technique of the smith has remained primitive. One of the disadvantages of the trade is the necessity of having an assistant for the bellows. The draft of the bellows is usually too strong for small objects which burn and too weak for large objects. Sometimes two

¹For a discussion and detailed description of different types of bellows see the following: André, R., *Die Metalle bei den Naturvölkern mit Berücksichtigung Prähistorischer Verhältnisse*. Leipzig, 1884; Beck, L., *Die Geschichte des Eisens*. Berlin, 1870-1871; Foy, W., *Zur Geschichte der Eisentechnik und besonders des Gebläses* (Ethnologica, Im Auftrage des Vereins zur Förderung des städtischen Rautenstrauch-Joest Museum für Völkerkunde in Köln, vol. 1, pp. 185-222, Leipzig, 1900); von Luschan, Felix, *Eisentechnik in Afrika* (Zeitschrift für Ethnologie, vol. 41, pp. 22-59, Berlin, 1909). Doctor Foy combats the contention of Professor Von Luschan that Africa is the place of origin of iron smelting and the blacksmith's art.

²Pallas, P. S., *Sammlungen der historischen Nachrichten über die Mongolischen Völkerschaften*. 1787. Part 1, Pl. 3.

2 [i.e., pig iron mined in yakutsk -- ANALYST]

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116, 325, 412

"On my way thither, [RCH: to mount Tshebedal] I passed the night in one of the huts of a Yakut about 10 versts from the mountain, and observed there a small furnace with a pair of hand-bellows fixed, which were double, and gave a constant blast when worked with both hands. I saw some specimens of iron ore obtained in the neighborhood, exactly resembling that of the Vilui in curious forms and shapes. This iron my host worked into knives, palmas, hatchets, &c. without fusion, bringing it into a very soft state by heat, and beating it out. He used charcoal for this purpose, nor did he know, till I showed him, that the coals, which he called black stones, would burn; and he was inclined to think me a sorcerer for making [133] them inflammable. This mountain, however, afforded him grind-stones."

"On the banks of the Aldan, near Yakutsk, iron ore is present in great quantities, and enormous blocks [218] of it found on the surface of the earth are sold in the town for a trifling sum. The Yakuts smelt iron in the same way as did the ancient Greeks. They place the ore in the fireplace and pile coal round it, maintaining the heat of the fire by means of hand bellows. When the carbon is burnt away, they break up the masses of slag, and the metal they find they work with hammers. Of the iron are made the hunting-knives famous in that region. No attempt is made to mine the earth for the rich reserves of iron which are undoubtedly there."

16: Great Britain Admiralty -- 166 [2] G-3 (no date) 1920

Yakut

116. 325

"They smelted the iron-ore of the Vilyui valley long before the Russians came, and they manufacture their own tools. Yakut steel is very flexible, but very good. "

"I also heard here [RCH: at Olekma] of an iron ore, roundish masses of which are found at Vilui. It is said that the Yakut smiths used to smelt it, before the Russians came here, and the ore is on that account still called chugún, or casting iron. Pieces of it, which I saw in Tobolsk, were very far, nevertheless, from being pure iron. They were nothing but a mixture of earthy brown iron ore with specks of the pyrites from which it was probably formed. Its chemical constitution brings to mind the ore at Yerbinsk changed by decomposition from exposure to air and moisture, and also a similar phenomenon in the limestone on the western slope of the Ural; [268] but the metallic pieces of Vilui are always much larger than those thin and streaky stalactites."

17: Erman--300 [2]
116, 171, 325, 439, 294

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(1828-29) 1850

Yakut

"Some productions of Yakutian industry are purchased by the Russians, and sent into Europe, particularly floor-cloths of white and coloured felts, which are cut into narrow pieces, and then tastefully and symmetrically sewed together, like mosaic. It is a still weightier circumstance that these people have been able, from the earliest times, to procure themselves certain metals, and have known how to work them. The iron ore of Vilui is smelted and wrought in the yurts at that place, just in the same manner as at Tashkent, or as among the Buraets and the Tatars of Kusnetsk."

43: Karutz--74

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Yakut

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Ceramics is known, as well as fusing and forging of metals. They use bellows of butter bags, made of sheep skin.

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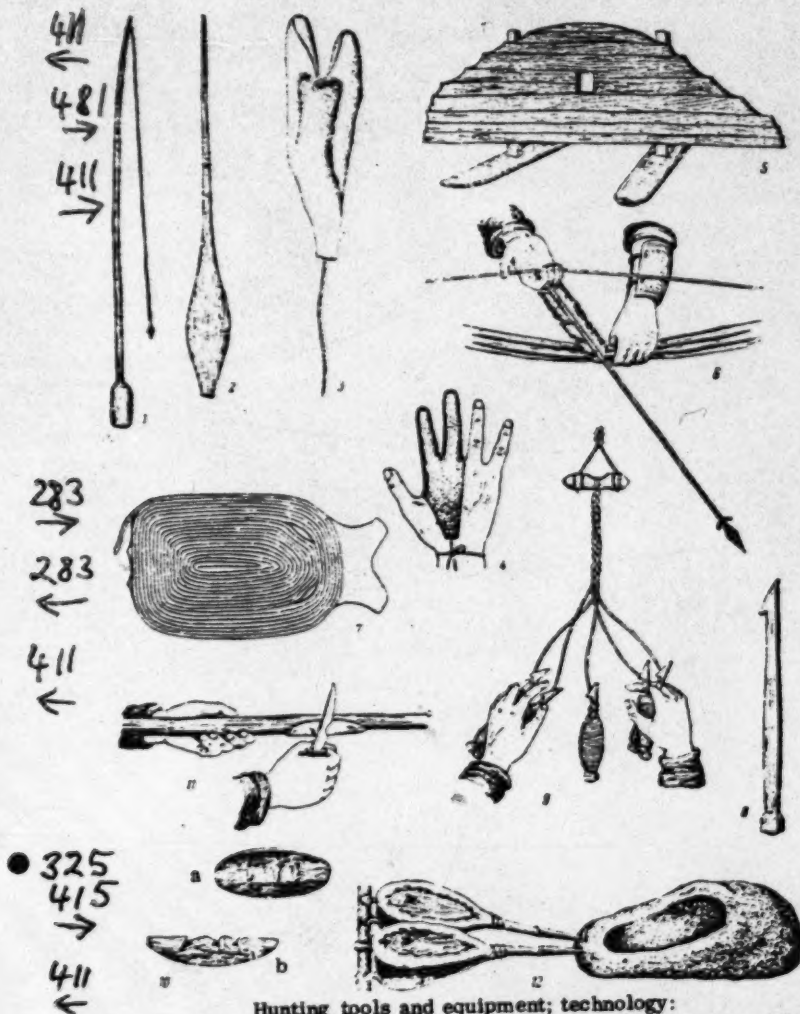
122 shore, as he said, a Jakute /Yakut/ from Lake Dshésse, who
123 had married the daughter of the Jakuten /Yakut/ in residence
here, Etukjúi, and lived here at the moment, while his father-
in-law had undertaken a journey, probably for trade purposes.
The people were very friendly and immediately sold a rein-
deer, although they themselves had few of them, but they could
not be of further use to us. Our young host, not being from
this place, did not know the region at all and, in fact, seemed
to be a little dull-witted, and therefore he would not /142/
do for a guide. Later, however, we discovered that we had been
completely deceived by him, that he did come from this region,
indeed even held a community office, and consequently
would have been obliged to guide us. /The remainder of p. 142
and the first paragraph of p. 143 are omitted in the translation;
see the foreign text. Page 143 continues as follows. /

On September 3 we crossed the sixty-ninth degree of lati-
tude, not without being delayed once by a very great bend, and
toward evening met first the wife of Temír Jegór, mentioned to
us long ago, and then, a few versts farther on, the man him-
• [325] self, engaged in fishing. Temír Jegór, that is, the iron
Jegór, a very martial-sounding name, which, however, comes
from the skill at making ironware, knives, palmás, and the
like, commonly found among the Jakuten /Yakut/, was a very
vigorous graybeard about 60 years old, as he himself said, and,
of all the men whom we had met so far along the Olenék, made
by far the best impression. Without long entreaties he gave
very detailed statements about the further course of the river up
to the mouth, where he himself had been in former times, as
well as in Bulún, where the upráwa /uprava/ (government
board) was to be found.

/144/ It was especially interesting to us, however, to learn
that he had already known about our expedition. According to
his assertions, news of it had come to Wiljuisk /Vilyuisk/ at the
time of the great fasting, but the inhabitants of the Olenék who
had heard about it had fled from us simply out of fear. From
our own experiences this account was very creditable, and even

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Peoples of Northern Siberia and the Far East



Hunting tools and equipment; technology:

1—flexible stick with cord for releasing a throwing arrow; 2—wooden throwing arrow; 3, 4—glove worn for archery; 5—shield on skis for hiding the hunter; 6—method of protecting the hand during archery; 7—method of cutting a spiral strip from reindeer-skin; 8—wooden hook for braiding lasso; 9—method of braiding lasso; 10a, b—wooden knife holder with holes for blades; 11—method of using knife holder; 12—clay kiln with blacksmith's bellows.

224 involved concealment: the hunters skillfully approached the herd behind a
(292) shield erected on runners. In the winter the hunters put on white coats with
chestpieces made of white dogskin, enabling them to crawl over the snow